

WHAT IS CLAIMED IS:

- 1 1. An intravascular sheath comprising:
2 an inner tube extending to a distal end;
3 a wire coil wound around said inner tube extending to an end
4 spaced proximally from said inner tube distal end;
5 a first outer tube disposed around said wire coil and said inner
6 tube therewithin to a first outer tube distal end spaced proximally from said
7 wire coil distal end such that a distal end portion of said wire coil extends
8 distally therebeyond; and
9 at least a second outer tube disposed around said wire coil and
10 said inner tube therewithin extending distally from said first outer tube distal
11 end and covering said distal end portion of said wire coil and extending
12 slightly beyond said distal end of said inner tube,
13 said first outer tube being of a material having a relatively hard
14 durometer, and said second outer tube being of a material of a substantially
15 softer durometer than said material of said first outer tube.
- 1 2. The intravascular sheath according to claim 1, wherein said outer tube
2 and said inner tube are bonded to each other and to said wire coil and to
3 said inner tube between windings of said wire coil.
- 1 3. The intravascular sheath according to claim 2, wherein an outwardly
2 facing surface of said inner tube has been roughened to enhance bonding
3 thereto of said first and second outer tubes.
- 1 4. The intravascular sheath according to claim 2, wherein said bonding is
2 heat bonding.

Sub
1 5. The intravascular sheath according to claim 1, wherein a radiopaque
2 marker band is affixed to said wire coil distal end within said second outer
3 tube.

1 6. The intravascular sheath according to claim 1, wherein said second
2 outer tube is polymeric and contains radiopaque filler.

1 7. The intravascular sheath according to claim 6, wherein said second outer
2 tube contains between about 20 % and 85 % by weight of radiopaque filler
3 particles.

1 8. The intravascular sheath according to claim 6, wherein said second outer
2 tube contains about 80% by weight of radiopaque filler particles.

1 9. The intravascular sheath according to claim 1, wherein said first outer
2 tube is substantially free of radiopaque filler.

1 10. The intravascular sheath according to claim 1, wherein said second
2 outer tube comprises a material having a durometer of at least 5 D lower
3 than that of the first outer tubing length.

1 11. The intravascular sheath according to claim 10, wherein said first outer
2 tube comprises a material having a durometer of about 56D to 58D.

1 12. The intravascular sheath according to claim 1, wherein said second
2 outer tube comprises a material having a durometer of between about 10 D
3 and 75 D.

1 13. The intravascular sheath according to claim 12, wherein said second
2 outer tube comprises a material having a durometer of about 39D.

Sub
AI
1 14. The intravascular sheath according to claim 1, wherein said first and
2 second outer tubes are distinctly different in color or shade.

1 15. The intravascular sheath according to claim 1, wherein said wire coil
2 comprises flat wire.

1 16. The intravascular sheath according to claim 1, wherein a distal tip
2 region of the sheath is arcuate.

1 17. The intravascular sheath according to claim 16, wherein said arcuate
2 distal tip region has a length of about 1 cm or more.

1 18. The intravascular sheath according to claim 16, wherein said arcuate
2 distal tip region extends about an angle of about 90°.

1 19. The intravascular sheath according to claim 1, wherein said wire coil
2 extends for a length of about five millimeters beyond said distal end of said
3 first outer tube.

1 20. The intravascular sheath according to claim 1, wherein said inner tube
2 is unitarily formed.

1 21. An intravascular sheath comprising:
2 an inner tube extending to a distal end;
3 a wire coil wound around said inner tube extending to an end
4 spaced proximally from said inner tube distal end;
5 a first outer tube disposed around said wire coil and said inner
6 tube therewithin to a first outer tube distal end spaced proximally from said
7 wire coil distal end such that a distal end portion of said wire coil extends
8 for a length of about 1 cm distally therebeyond; and

9 a second outer tube distally from said first outer tube distal end
10 and disposed around and covering said distal end portions of said wire coil
11 and said inner tube therewithin and extending slightly therebeyond;

12 said first outer tube being of a material having a durometer of
13 between about 50 D and 60 D, and said second outer tube being of a
14 material of a durometer of between about 35 D and 45 D;

15 said second outer tube comprises a radiopaque material;

16 said wire coil is of flat wire;

17 said first and second outer tubes are bonded to said inner tube
18 and to said wire coil.

RECEIVED
JAN 11 1960